

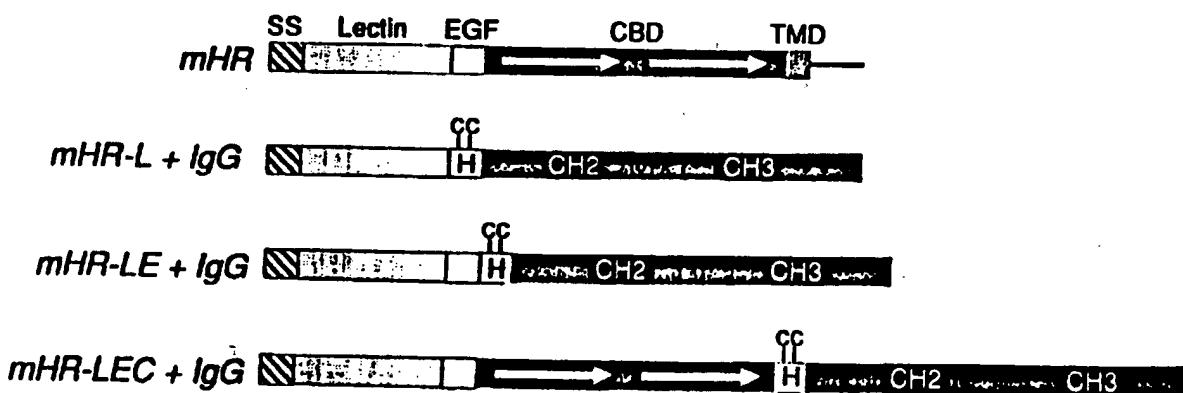


INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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(22) International Filing Date: 21 November 1990 (21.11.90)		
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(71) Applicant: GENENTECH, INC. [US/US]; 460 Point San Bruno Boulevard, South San Francisco, CA 94080 (US).		(88) Date of publication of the international search report: 17 October 1991 (17.10.91)
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(54) Title: FUSION PROTEINS CONSISTING OF A LIGAND BINDING PROTEIN AND A STABLE PLASMA PROTEIN

Murine PLN Homing Receptor IgG Chimeras



(57) Abstract

Novel polypeptides are provided, together with methods for making and using them, and nucleic acids encoding them. These polypeptides are useful as cell surface adhesion molecules and ligands, and are useful in therapeutic or diagnostic compositions and methods.

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INTERNATIONAL SEARCH REPORT

International Application No PCT/US 90/06849

I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all)¹

According to International Patent Classification (IPC) or to both National Classification and IPC
IPC5: C 12 N 15/62, 15/13, 15/14, 15/12, C 07 K 13/00
A 61 K 39/395, 37/02, C 12 N 5/10

II. FIELDS SEARCHED

Minimum Documentation Searched⁷

Classification System	Classification Symbols
IPC5	C 12 N; C 07 K; A 61 K
<small>Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in Fields Searched⁸</small>	

III. DOCUMENTS CONSIDERED TO BE RELEVANT⁹

Category ¹⁰	Citation of Document, ¹¹ with indication, where appropriate, of the relevant passages ¹²	Relevant to Claim No. ¹³
E	WO, A1, 9104329 (ABBOTT LABORATORIES) 4 April 1991, see especially p.14 line 33-p. 15 line 15	1-5,9- 11,13- 17,19- 22,42- 49
E	EP, A2, 0414178 (THE GENERAL HOSPITAL CORPORATION) 27 February 1991, see the whole document	1-5,7- 11,13- 29,40- 49
E	EP, A1, 0413622 (RHONE-POULENC SANTE) 20 February 1991, see the whole document	1,34- 49

* Special categories of cited documents:¹⁰

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- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

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"X" document of particular relevance, the claimed invention cannot be considered novel or cannot be considered to involve an inventive step

"Y" document of particular relevance, the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"G" document member of the same patent family

IV. CERTIFICATION

Date of the Actual Completion of the International Search

27th August, 1991

Date of Mailing of this International Search Report

13.09.91

International Searching Authority

EUROPEAN PATENT OFFICE

Signature of Authorized Officer

Falk Heck

III. DOCUMENTS CONSIDERED TO BE RELEVANT (CONTINUED FROM THE SECOND SHEET)		
Category	Citation of Document, with indication, where appropriate, of the relevant passages	Relevant to Claim No
E	WO, A1, 9100360 (MEDAREX, INC.) 10 January 1991, see the whole document --	1-5,7- 11,13- 29,40- 49
E	WO, A1, 9014103 (SCRIPPS CLINIC AND RESEARCH FOUNDATION) 29 November 1990, see the whole document --	1-5,7- 11,13- 29,40- 49
E	EP, A1, 0399666 (DELTA BIOTECHNOLOGY LIMITED) 28 November 1990, see the whole document --	1,34- 49
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P,X	WO, A1, 9005144 (MEDICAL RESEARCH COUNCIL) 17 May 1990, see especially claims 1-5 --	1-5,7- 11,13- 29,40- 49

III. DOCUMENTS CONSIDERED TO BE RELEVANT (CONTINUED FROM THE SECOND SHEET)		
Category *	Citation of Document, with indication, where appropriate, of the relevant passages	Relevant to Claim No
P,X	WO, A1, 9002338 (THE GENERAL HOSPITAL CORPORATION) 8 March 1990, see the whole document --	1-5,7- 11,13- 21,40- 49
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X	EP, A3, 0325262 (THE GENERAL HOSPITAL CORPORATION) 26 July 1989, see the whole document	1-5,7- 11,13- 29,40- 49
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Y	 --	1,34- 49
Y	EP, A1, 0322094 (DELTA BIOTECHNOLOGY LIMITED) 28 June 1989, see the whole document --	1,34- 49
X	EP, A1, 0314317 (GENENTECH, INC.) 3 May 1989, see especially the abstract, p. 4 line 57-p. 5, line 2, the claims --	1-5,7- 11,13- 49
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III. DOCUMENTS CONSIDERED TO BE RELEVANT		(CONTINUED FROM THE SECOND SHEET)
Category	Citation of Document, with indication, where appropriate, of the relevant passages	Relevant to Claim No
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A	Letters to Nature, vol. 342, November 1989, D. Camerini et al.: "Leu-8/TQ1 is the human equivalent of the Mel-14 lymph node homing receptor ", see page 78 - page 82	6,12,27, 30-33, 36
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III. DOCUMENTS CONSIDERED TO BE RELEVANT (CONTINUED FROM THE SECOND SHEET)		
Category *	Citation of Document, with indication, where appropriate, of the relevant passages	Relevant to Claim No
A	Proc. Natl. Acad. Sci., vol. 86, July 1989, M.H. Siegelman et al.: "Human homologue of mouse lymph node homing receptor: Evolutionary conservation at tandem cell interaction domains ", see page 5562 - page 5566 --	6,12,27, 30-33, 36
A	The Journal of Cell Biology, vol. 109, July 1989, B.R. Bowen et al.: "Characterization of a human homologue of the murine peripheral lymph node homing receptor ", see page 421 - page 427 --	6,12,27, 30-33, 36
X	Letters to Nature, vol. 339, May 1989, A. Traunecker et al.: "Highly efficient neutralization of HIV with recombinant CD4-immunoglobulin molecules ", see page 68 - page 70 --	1-5,7- 11,13- 29,42- 49
X	Nature, vol. 337, February 1989, D.J. Capon et al.: "Designing CD4 immunoadhesins for AIDS therapy ", see page 525 - page 531 --	1-5,7- 11,13- 29,42- 49
Y	Chemical Abstracts, volume 109, no. 25, 19 July 1988, (Columbus, Ohio, US), Reed, Roberta G. et al.: "Non-resolving jaundice: bilirubin covalently attached to serum albumin circulates with the same metabolic half-life as albumin", see page 587, abstract 227803g, & Clin. Chem. 1988, 34(10), 1992-1994 --	1,34- 49
X	Nature, vol. 312, December 1984, M. S. Neuberger et al.: "Recombinant antibodies possessing novel effector functions ", see page 604 - page 608 -- -----	1-5,8- 11,13- 21,42- 49

FURTHER INFORMATION CONTINUED FROM THE SECOND SHEET

V. OBSERVATION WHERE CERTAIN CLAIMS WERE FOUND UNSEARCHABLE ¹

This International search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. Claim numbers Authority, namely because they relate to subject matter not required to be searched by this

2. Claim numbers 1-5,7-11,13-26,28,29,34-49 because they relate to parts of the International application that do not comply with the prescribed requirements to such an extent that no meaningful International search can be carried out. specifically:
for further information see form PCT/ISA/206 dd 16/04/91

3. Claim numbers the second and third sentences of PCT Rule 6.4(a) because they are dependent claims and are not drafted in accordance with

VI. OBSERVATIONS WHERE UNITY OF INVENTION IS LACKING ²

This International Searching Authority found multiple inventions in this International application as follows:

1. claims 6,12 completely,(1-5,8-11,13-22,40,42-49) partially; 2. claims 7 completely,(1-5,8-22,40,42-29) partially; 3. claims 23 completely,(1-5,8-22,40,42-49) partially; 4. claims 24 completely,(1-5,8-22,40,42-49) partially; 5. claims 25-33; 6. claims 34,35,39; 7. claims 38,41

for further information see form PCT/ISA/206 dd 16/04/91

1. As all required additional search fees were timely paid by the applicant, this International search report covers all searchable claims of the International application

2. As only some of the required additional search fees were timely paid by the applicant, this International search report covers only those claims of the International application for which fees were paid, specifically claims:

3. No required additional search fees were timely paid by the applicant. Consequently, this International search report is restricted to the invention first mentioned in the claims, it is covered by claim numbers

4. As all searchable claims could be searched without effort justifying an additional fee, the International Searching Authority did not invite payment of any additional fee.

Remark on Protest

- The additional search fees were accompanied by applicant's protest

- No protest accompanied the payment of additional search fees

**ANNEX TO THE INTERNATIONAL SEARCH REPORT
ON INTERNATIONAL PATENT APPLICATION NO.PCT/US 90/06849**

SA 43043

This annex lists the patent family members relating to the patent documents cited in the above-mentioned international search report.
The members are as contained in the European Patent Office EDP file on **27/06/91**
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**ANNEX TO THE INTERNATIONAL SEARCH REPORT
ON INTERNATIONAL PATENT APPLICATION NO.PCT/US 90/06849**

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		JP-A-	60155132	15/08/85
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